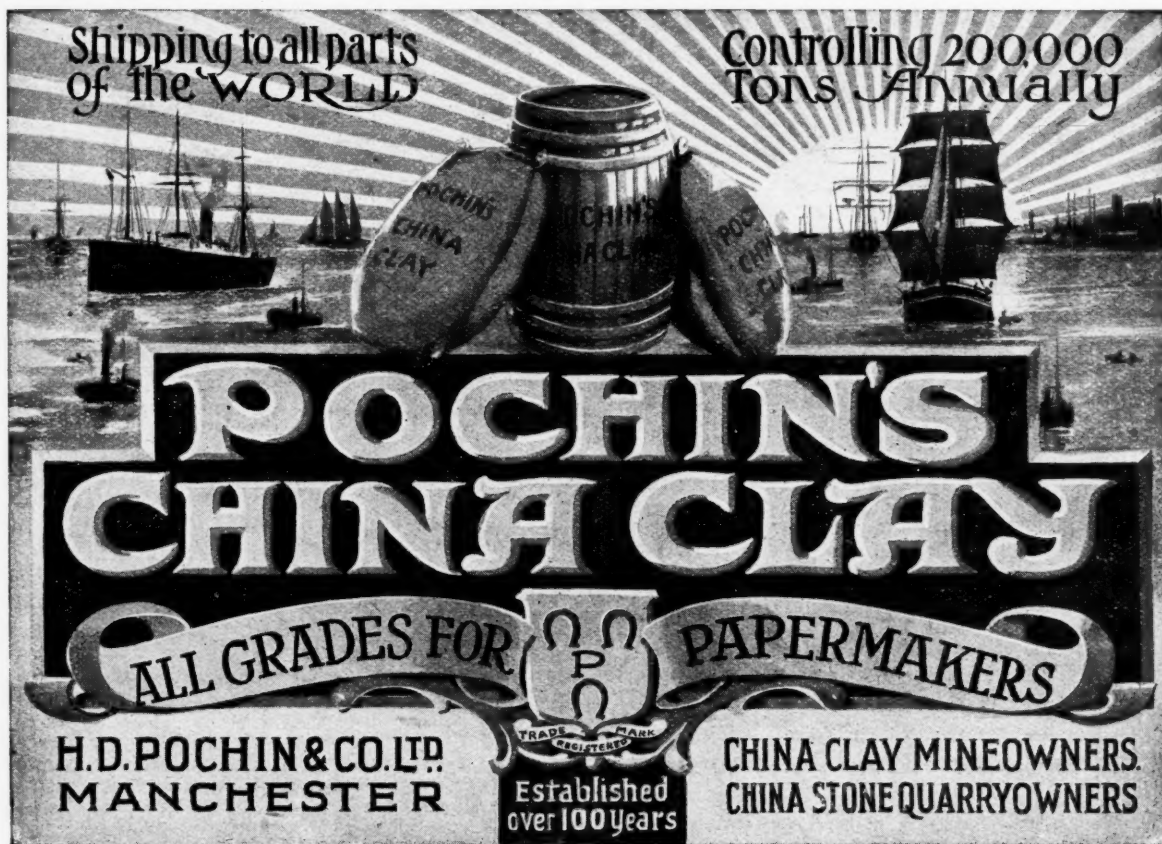



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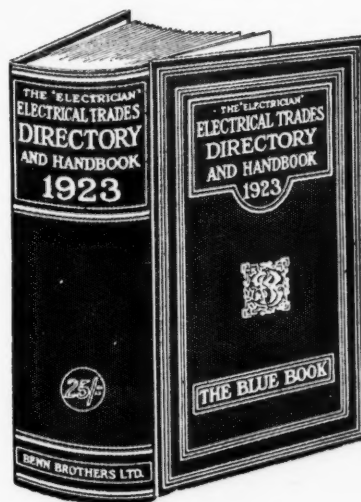
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(Continued from page 58)

place, a short washing is sufficient. In fixing the aluminium in the mass it is treated before washing with a saturated solution of calcium chloride. Other examples are given of the use of zinc oxide and iron oxide, and also calcium acetate.

226,066. CHROMATES, PROCESS AND APPARATUS FOR MAKING. W. Carpmal, London. From the National Electrolytic Co., Niagara Falls, N.Y., U.S.A. Application date, February 15, 1924.

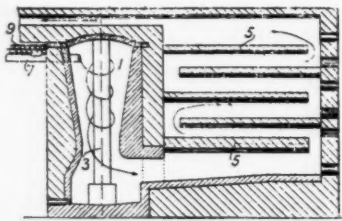
In the process of making chromates by mixing powdered chromite with potassium or sodium carbonate and lime, and roasting in an oxidised atmosphere at  $1,000^{\circ}$ – $1,100^{\circ}$  C., the large masses of the solidified material obtained are difficult to leach, and the crushing of these masses involves additional expense as well as losses due to dust produced. In this invention, the mixture is well agitated during roasting, and agitation in an oxidising atmosphere is continued until the material reaches a temperature below the solidification point. The material is thus maintained in a granular condition and is discharged as such from the furnace. It is thus found that any chromite which escapes conversion during the heating may still be oxidised and converted into chromate while cooling. The lime and sodium carbonate are ground to 100 mesh and the ore to 130 mesh. The sodium carbonate may be employed in the form of soda ash. The furnace is extended beyond the hot zone to form a cooling zone in which agitation is continued, and the material is finally discharged at about  $700^{\circ}$  C. A suitable furnace is described in which the material is roasted on two adjacent hearths separated by a channel in which an agitating and conveying device moves, while its projecting arms act on the material on the hearths to agitate it and move it through the furnace.

NOTE.—Abstracts of the following specifications which are now accepted, appeared in THE CHEMICAL AGE when they became open to inspection under the International Convention:—202,317 (H. R. Berry) relating to the conversion of high boiling hydrocarbons into lower boiling hydrocarbons, see Vol. IX, p. 432; 203,691 (Quaker Oats Co.) relating to a process of manufacturing furfural, see Vol. IX, p. 550; 208,689 (Canadian Electro Products Co., Ltd.) relating to manufacture of acetaldehyde, see Vol. X, p. 202.

#### International Specifications not yet Accepted

224,235. ROASTING ORES. Compagnie Generale des Produits Chimiques de Louvres, Louvres, France. International Convention date, October 30, 1923.

A combustible ore such as pyrites, blende, or grey antimony ore, is ground and supplied by a conveyor 9 to a blast conduit



224,235

7, which injects it tangentially into a chamber 1 where it passes downwards in a spiral path around a column 3 while burning. The combustion gases pass through a dust collector 5. If the ore is not self burning the air blast may be heated, or fuel may be burnt at intervals in the chamber 1.

224,245. METAL RETORTS. W. M. Cross, 700, Baltimore Avenue, Kansas, Mo., U.S.A. International Convention date, October 31, 1923.

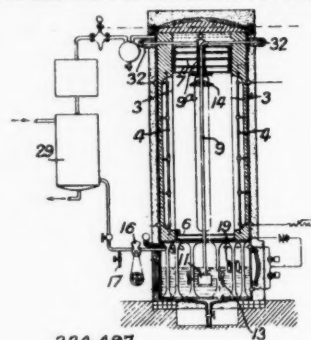
Large retorts for distilling oil, or other chambers for resisting high temperatures and pressures are made from a steel ingot containing less than 0.2 per cent. of sulphur. The ingot is annealed, surface cracks chipped out, drilled, and swaged down on a mandrel intermediate of its ends. The thick ends are closed in by swaging on a mandrel and then machined to form flanges.

224,252. PURIFYING OILS AND TARS. J. Duclaux, 34, Rue du Bac, Paris. International Convention date, November 2, 1923.

Various oils and fats, tars, asphalt, bitumen, fatty acids, glycerine and residual products of their manufacture can be decolorised and purified by dissolving in volatile solvents and subjecting the solutions to fractional dialysis. Membranes of nitro cellulose or aceto cellulose are used, and the solvent is circulated so as to be progressively enriched.

224,497. DISTILLING OR CRACKING HYDROCARBONS. Soc. Anon. des Petroles, Houilles, et Derives, 6<sup>bis</sup>, Rue des Ecoles, Paris. (Assignees of E. B. G. Basco<sup>U</sup>, 6<sup>bis</sup>, Rue des Ecoles, Paris.) International Convention date, November 11, 1923.

Tar or petroleum oil is supplied through a heat exchanger 29 to a pump 16 and then to the bottom of the tower 3. The



224,497

oil or tar then passes up through a pipe 9 and pipe 32 to an annular channel 9a and conical distributor 14. The liquid then falls as a thin sheet and is heated by electric heaters 4 arranged in porcelain or quartz tubes, which are placed in parabolic recesses in the tower walls. Heating may alternatively be effected by metal tubes through which hot gas or a molten metal is passed. The vapour passes through perforated trays 7 of copper, nickel, or cobalt, containing bauxite, quicklime, iron oxide, or calcium chloride. Water, steam, or gas may be passed into the tower if required, and a float 19 may be provided to actuate an electric indicator when the liquid level is at its highest or lowest.

224,505. AMMONIUM AND POTASSIUM CHLORIDES; SODIUM BICARBONATE. Soc. Chimique de la Grande Paroisse (Azote et Produits Chimiques), 13, Rue des Saussaies, Paris. International Convention date, Nov. 8, 1923.

Specification 210,399 (see THE CHEMICAL AGE, Vol. X, p. 334) describes a process for obtaining potassium and ammonium chlorides by using sylvinit or other mineral containing potassium chloride instead of sodium chloride in one of the forms of the ammonia-soda process. In this invention the starting material is a mixture of potassium, sodium and magnesium chlorides, which is treated with sodium carbonate and a small quantity of water at boiling temperature. A compact magnesium carbonate is obtained, from which the sodium and potassium salts can be separated by leaching with water, and used in an ammonia-soda process. The sodium bicarbonate obtained may be reconverted into sodium carbonate. In an alternative process the magnesium salt may be converted into an insoluble form by fusing with sodium carbonate.

224,509. TREATING WASTE SULPHITE CELLULOSE LIQUOR. C. G. Schwalbe, 26, Donopstrasse, Eberswalde, Germany. International Convention date, November 6, 1923.

Waste sulphite cellulose liquor is mixed with magnesium calcium or sodium chloride, and heated to  $150^{\circ}$  C.– $200^{\circ}$  C. under a pressure of 5–8 atmospheres. Acetic acid, methyl alcohol, and sulphur dioxide are recovered. If wood waste, shavings, sawdust, bark, etc., are added to the original mixture, the carbon obtained is readily filtered.

224,521. ACTIVE CHARCOAL. Ges. für Chemische Produktion, 156, Sandhoferstrasse, Waldhof, Mannheim, Germany, H. Müller-Clemm, 23, Gutenbergstrasse, Waldhof, Mannheim, Germany, and I. Schmidt, 336, Oppauerstrasse, Waldhof, Mannheim, Germany. International Convention date, November 5, 1923.

Wood, cork, or other vegetable material is heated to incan-

descence with liver of sulphur, or with a sulphide or polysulphide containing potash also. The material may then be suddenly cooled in water, leached and treated with hydrochloric acid. The leaching liquor is used for activating fresh material. A highly active charcoal for decolorising and gas absorption purposes is obtained.

224,522. BENZANTHRONE DERIVATIVES. Farbwerke vorm. Meister, Lucius, and Brüning, Hoechst-on-Main, Germany. International Convention date, November 9, 1923.

1<sup>l</sup>-diazo-2<sup>l</sup>-oxybenzanthrone anhydride is treated with stannous chloride and caustic potash solution, yielding the 2<sup>l</sup>-oxybenzanthrone, which is purified by dissolving in alkali and reprecipitating. This is treated with dimethyl-sulphate and alkali to obtain a methoxy compound which is treated by alkali fusion to obtain a dyestuff which gives green shades on cotton. The diazo-oxy-anhydride referred to may be obtained by converting a benzanthrone-2<sup>l</sup>-nitro-1<sup>l</sup>-diazonium salt into the diazonium hydrate by hydrolysis or otherwise.

#### Specifications Accepted with Date of Application

- 211,120 and 219,280. Indigoid dyestuff, Manufacture of. Soc. of Chemical Industry in Basle. February 9, 1923, and July 18, 1923. Additions to 189,782.
- 220,597. Sulphur of a high degree of dispersion, Process for the production of. T. Goldschmidt Akt.-Ges. August 16, 1923.
- 226,309. Cellulose acetate. L. A. Levy. October 10, 1923.
- 226,337. Detergent. H. Noble. August 6, 1924.
- 226,349. Sodium, Preparation of. P. L. Hulin. November 20, 1923.
- 226,364. Gas purifiers. C. S. Floyd. December 14, 1923.
- 226,367. Filtering liquids, Apparatus for. G. H. Potts. July 7, 1924.
- 226,373. Vat dyestuffs, Manufacture of. O. Y. Imray. (*Soc. of Chemical Industry in Basle*). December 29, 1923.
- 226,391. Hydrogen peroxide, Production of. R. Wolfenstein and V. Makow. February 2, 1924.
- 226,440. Concentrated rubber latex and rubber from rubber latex, Production of. I. Traube. May 29, 1924.

#### Applications for Patents

- Allen, Sir W. J., and Broad, I. T. Synthesis of ammonia. 736. January 9.
- American Cellulose and Chemical Manufacturing Co., Ltd., and British Celanese, Ltd. Manufacture of products having a basis of cellulose derivatives. 30,978. December 24.
- Baddiley, J., British Dyestuffs Corporation, Ltd., Hill, J., Lawrie, L. G., Shepherdson, A., and Swann, H. Dyeing acetyl cellulose, etc. 517. January 7.
- Calvert, H. C. Dyeing-machines. 558. January 8.
- Chemical Works, formerly Sandoz. Process for rendering immune mercerised cotton, viscose silk, etc. 742. January 9. (Germany, October 24, 1924.)
- Chemiczny Instytut Badawczy. Manufacture of manures. 480. January 7. (Poland, January 7, 1924.)
- Compagnie de Béthune. Manufacture of alcohol or ether from ethyl sulphuric acid. 31,214. December 30. (France, February 11.)
- Deutsche Gold-und Silber-Scheideanstalt vorm. Roessler. Manufacture of hydrogen cyanide. 30,914. December 23. (Germany, December 2, 1922.)
- Distilleries des Deux-Sevres, formerly Soc. Ricard, Allenet, et Cie. Dehydration of volatile fatty acids. 30,896. December 23. (Belgium, December 28, 1923.)
- Dodd, H., Sprent, W. C., and United Alkali Co., Ltd. Manufacture of quinzarin. 31,115. December 29.
- Dodd, H., Sprent, W. C., and United Alkali Co., Ltd. Manufacture of thioindigo, etc. 31,116. December 29.
- Dodd, H., Sprent, W. C., and United Alkali Co., Ltd. Manufacture of anthraquinone dyes. 31,117. December 29.
- Dovan Chemical Corporation. Rubber vulcanisation. 31,125. December 29.
- Dutt, E. E., and W., Softening and purification of water. 431. January 6.
- Empson, A. W. Centrifugal purifying and dehydrating apparatus. 498. January 7.
- Field, S. Electrolytic production of zinc from ores, etc. 31,163. December 29.
- Green, R. Manufacture of cellulose acetate. 486. January 7.
- Herzog, O. Dissolving substances with emulsions of wool fat. 855. January 10.
- Herzog, O. Process of obtaining sulphonated products of wool fat. 856. January 10.
- Hick, G. M. Method of strengthening phenolaldehyde condensation product. 701. January 9.
- Kalle and Co., Akt.-Ges., and Sokal, S. Preparation of vat-dye-stuffs. 31,233. December 30.
- Majithia, S. K. S., and Singh, P. Bleaching-agent, etc. 425. January 6.

- May and Baker, Ltd., and Newberry, G. Manufacture of monoacyl derivatives of aminoarylarseno compounds. 420. January 6.
- Mond, A. L. (American Shale Reduction Co.) Treatment of carbonaceous materials. 30,808. December 22.
- Naamlouze Vennootschap A. Jurgens' Margarinefabrieken. Process for bleaching oils, fats, etc. 30,824. December 23. (Germany, December 27, 1923.)
- Petersen, H. Manufacture of sulphuric acid. 31,118. December 29.
- Pirbright Co., Ltd. Centrifugal separators. 822, 823, 824, 825. January 10.
- Rhodes, J. A. Dyeing artificial silks. 450. January 7.
- Schwalbe, C. G. Utilisation of sulphite-cellulose lye. 632. January 8. (Germany, January 30, 1924.)
- Soc. Ammonia. Extraction of hydrogen from coke-oven gas, etc. 30,912. December 23. (France, November 6.)
- Soc des Tours à Coke Semet-Solvay et Piette Soc. Anon. Manufacture of ammonium sulphate. 31,230. December 30.
- Strange, E. H. Manufacture of alcohols and acetone. 764. January 10.

#### Soap Manufacturers' Voluntary Liquidation

THE creditors of Holders (London), Ltd., soap manufacturers, of Cannon Street, London, E.C., met on January 8, at 5, John Street, Bedford Row, London, W.C. It was stated that the company had gone into voluntary liquidation and had appointed Mr. W. B. Pearson to act as liquidator.

The statement of affairs showed assets estimated to realise £321, from which had to be deducted £216 os. 7d. for preferential claims, leaving free assets of £104 19s. 5d. There were debentures for £950. The free assets were insufficient to pay the debentures in full, and consequently there was nothing available for the unsecured creditors. The deficiency as regarded the debenture holders was £845 os. 7d., and as regarded the creditors the deficiency was £1,485 8s. 2d. The goodwill and process rights appeared in the books at £1,900, but no value was placed upon them in the statement of affairs. The company was registered in March, 1923, with a capital of £5,000, and took over the business previously carried on by Mr. H. N. Holder. The business consisted in the manufacture of low-priced soap and a jelly. Last year the sales fell to £2,217, with a net loss of about £1,000. For some time past abortive efforts had been made to sell the business, and the liquidator had received an offer of £480, which was being accepted.

The representative of J. Crosfield and Sons alluded to the falling off in the sales and said it should have been apparent that it was hopeless to continue the business.

No resolutions were passed, but the opinion was expressed that the voluntary liquidation should be continued, Mr. Pearson as liquidator.

#### New Year Calendars

WE have received a number of calendars, etc., for 1925, issued by well-known firms. One of the neatest of the pocket diaries is presented by the Hydrogen, Oxygen and Plant Co., Ltd., of Albemarle Street, Piccadilly, London. It is in celluloid and leather binding, and in addition to spaces for engagements, memoranda, etc., has a valuable collection of engineering and other tables. R. and H. Leigh and Sons, Ltd., Orlando Ironworks, Bolton, who specialise in carboy hampers, publish an attractive wall calendar, with an excellent drawing in colours of one of their metal carboys. Le Grand Sutcliffe and Gell, Ltd., artesian well and boring engineers, of Southall, London, forward a calendar in which the month, date and day are so arranged that they can be seen at a glance, and which has several attractive photographs illustrating the firm's operations. Crofts (Engineers), Ltd., of Bradford, well known as specialists in power transmission, issue a thirteen-page wall calendar, on which the firm's products are illustrated in great variety.

#### Mill Furnishings

THE question of mill furnishings concerns practically all industries, and the chemist in particular has need of such plant as grinding mills for sampling, pulverisers, sifters, mixers and separators. Because of its comprehensiveness the 1925 edition of the Mill Furnishing List, published by W. R. Dell & Son, 57, Mark Lane, London, E.C., will be of interest to many in the chemical industry. A full index and illustrations increase its value. Copies can be obtained by mentioning THE CHEMICAL AGE.



## London Chemical Market

The following notes on the London Chemical Market are specially supplied to THE CHEMICAL AGE by Messrs. R. W. Greeff & Co. Ltd., and Messrs. Chas. Page & Co., Ltd., and may be accepted as representing these firm's independent and impartial opinions.

London, January 15, 1925.

BUSINESS this week has been better and there is evidence that demand in several directions has expanded. Prices on the whole are steady without any violent fluctuations.

Export inquiry has been moderately good, although business offered from several overseas markets is not easy to complete owing to their very low ideas of price.

### General Chemicals

ACETONE continues steady but in poor demand at £85 to £87 per ton.

ACID ACETIC is fairly active and price remains unchanged at £41 per ton for Technical and £43 per ton for Pure 80%.

ACID CITRIC is fairly firm and the demand shows a tendency to improve.

ACID FORMIC is strong and in good request at £53 per ton.

ACID LACTIC.—Quite a substantial business has been transacted and is quoted at £43 per ton for 50% by weight.

ACID OXALIC is extremely active and price is unchanged at 3½d. per lb.

ACID TARTARIC.—There is little of interest to report in this market although higher prices are indicated for future business.

ALUMINA SULPHATE.—Quite a fair business has been transacted although price still continues somewhat weak.

ARSENIC.—Although there is no advance in price to record the tendency is much better and an advance now appears to be likely.

BARIUM CHLORIDE is steady and is in fair demand at £12 per ton.

COPPER SULPHATE is active and the article is in good demand at £20 per ton.

CREAM OF TARTAR is fairly steady at £78 per ton.

EPSOM SALTS is extremely firm and the price has an upward tendency.

FORMALDEHYDE continues lifeless and the article is weak at £46 per ton.

LEAD ACETATE is still very firm at £49 per ton for White, and with the slightest increase in the demand there is no doubt that this product would advance further.

LEAD NITRATE is very firm at £43 per ton; demand good.

LIME ACETATE is steadier and has an upward tendency at £14 to £14 10s. for Grey.

METHYL ALCOHOL.—Unchanged at £52 per ton.

POTASSIUM CARBONATE AND CAUSTIC.—Unchanged.

POTASSIUM PERMANGANATE.—Price continues firm and stocks are light; supplies can be obtained at round about 8d. per lb.

POTASSIUM PRUSSATE is in brisk demand with supplies somewhat short; the present quotation is 7½d. to 8d. per lb.

SODIUM ACETATE.—Unchanged at £23 per ton.

SODIUM BICHROMATE.—There is no alteration in the price here and quite a fair amount of business has been transacted at English makers' figures.

SODIUM HYPOSULPHITE is unchanged at £9 10s. to £9 15s. per ton for Commercial, while Photographic quality is somewhat higher at £14 10s. per ton.

SODIUM PRUSSATE is in brisk request both on home and export account, and the market is firm at 4½d. per lb. with an upward tendency.

SODIUM SULPHIDE is unchanged in value, but only a moderate business is reported.

### Coal Tar Products

There is little change to report in the market conditions for coal tar products since last week.

90% BENZOL remains firm at 1s. 8d. to 1s. 8½d. per gallon on rails.

PURE BENZOL is unchanged at 2s. per gallon on rails.

CREOSOTE OIL has a firm market at 6½d. to 6¾d. per gallon on rails in the North, while the price in London is 6½d. to 6¾d. per gallon.

CRESYLIC ACID is weak, and is quoted at 1s. 10d. per gallon on rails for the Pale quality 97/99%, while the Dark quality 95/97% is quoted at 1s. 7d. per gallon on rails.

SOLVENT NAPHTHA is a shade easier and is quoted at 1s. 3d. to 1s. 3½d. per gallon on rails.

HEAVY NAPHTHA remains at 1s. to 1s. 1d. per gallon on rails.

NAPHTHALENES have a little better inquiry, but the price remains unchanged. The Drained qualities are worth from £4 to £4 10s. per ton, 76/78 quality from £6 to £6 10s. per ton, and 74/76 at £5 10s. to £6 per ton.

PITCH remains dull owing to scarcity of Continental buyers. To-day's values are 50s. to 52s. 6d. f.o.b. main U.K. ports.

### Nitrogen Products Market

Export.—During the last week or two the demand from the Far East has continued, but fewer sales have been made as the producers have no substantial quantities available for near shipment. Only limited quantities remain available for export for shipment up to the end of April, and it is expected that this will be disposed of at from £13 15s. to £14 5s. per ton, f.o.b. U.K. port. The United States has shown further interest as importers of sulphate of ammonia, and it is reported that continental producers have made further sales to that country. If American requirements are substantial, there is no doubt that there will be a firmer market.

Home.—The home demand is normal for this period of the year. The total home sales for the year are about 10,000 tons above those of last year, up to the time of going to press. Reports from various parts of the country indicate that the home consumption will show an advance of about 10 per cent. on that of the previous year. This is no doubt due to the lower price of sulphate of ammonia as well as greater optimism among the farmers.

Nitrate of Soda.—The market has been weak and very small sales have been reported by the Producers' Association. It is expected that the present price of £11 14s./£11 18s. will be slightly advanced for delivery between now and May, in accordance with the Association's policy, although this will probably result in heavy stocks being carried over.

### American Market Movements

(From Drug and Chemical Markets.)

HEAVY chemical market continues to mark time during stock-taking period. Prices generally steady. Oxalic acid firmer. Copper sulphate unchanged. Prussiates higher. Bichromates steady. Acetate of lime prices expected to be unchanged for this month. Intermediates continue quiet with spot demand at a standstill. Dimethylaniline unsettled. Beta-naphthol continues to gain strength. Aniline oil steady. Paratoluidine dull. Para-nitroaniline weak. Crudes unchanged. Benzol maintaining steady position. Toluene strong, due to scarcity. Phenol weaker. Pyridine firmer. Naphthalene steady. Oils continue generally firm. Vegetable oils continue very steady. Fish oils remain firm. Animal oils advanced further. Stearic acid advanced further.

Fine chemicals are in active demand, specially mercury, santonin, potash permanganate, caffeine, and amidopyrine. Menthol is quiet. Tartaric acid is firm and citric is quiet. Cod liver oil is firm.

Essential oils are quiet. Oil peppermint is higher. Oil Java citronella is scarce. Oil cassia is easier.

### Aluminium Tanks

In the comprehensive range of tanks illustrated and described in Leaflet 64, published by the Aluminium Plant and Vessel Co., Ltd., of Point Pleasant, Wandsworth, London, are many that will interest the manufacturer and engineer. Almost every type of aluminium tank is dealt with, from the simple acid drum or carboy container to the complicated water jacketed tank complete with heating and cooling apparatus and agitator. A section is devoted to the numerous forms of tank outlets and brief mention is made of agitators and mixing gear. This apparatus is described in detail in a separate catalogue (No. 63) which deals with steam and water jacketed pans. The "A.P.V." improved vertical mixer is illustrated.

## Weekly Prices of British Chemical Products

The prices and comments given below respecting British chemical products are based on direct information supplied by the British manufacturers concerned. Unless otherwise qualified, the figures quoted apply to fair quantities, net and naked at retailers' works.

### General Heavy Chemicals

Acid Acetic, 40% Tech.—£22 to £24 per ton.  
 Acid Boric, Commercial.—Crystal, £45 per ton. Powder, £47 per ton.  
 Acid Hydrochloric.—3s. 9d. to 6s. per carboy d/d., according to purity, strength and locality.  
 Acid Nitric, 80° Tw.—£21 10s. to £27 per ton, makers' works, according to district and quality.  
 Acid Sulphuric.—Average National prices f.o.r. makers' works, with slight variations up and down owing to local considerations: 140° Tw., Crude Acid, 65s. per ton. 168° Tw., Arsenical, £5 10s. per ton. 168° Tw., Non-arsenical, £6 15s. per ton.  
 Ammonia Alkali.—£6 15s. per ton f.o.r. Special terms for contracts.  
 Bleaching Powder.—Spot, £10 10s. d/d.; Contract, £10 d/d. 4 ton lots.  
 Bisulphite of Lime.—£7 10s. per ton, packages extra.  
 Borax, Commercial.—Crystal, £25 per ton. Powder, £26 per ton. (Packed in 2-cwt. bags, carriage paid any station in Great Britain.)  
 Calcium Chloride (Solid).—£5 12s. 6d. to £5 17s. 6d. per ton d/d, carriage paid.  
 Copper Sulphate.—£25 to £25 10s. per ton.  
 Methylated Spirit 64 O.P.—Industrial, 2s. 7d. to 2s. 11d. per gall. Mineralised, 3s. 8d. to 4s. per gall., in each case according to quantity.  
 Nickel Sulphate.—£38 per ton d/d. Normal business.  
 Nickel Ammonia Sulphate.—£38 per ton d/d. Normal business.  
 Potash Caustic.—£30 to £33 per ton.  
 Potassium Bichromate.—5½d. per lb.  
 Potassium Chlorate.—3d. to 4d. per lb.  
 Sal ammoniac.—£45 to £50 per ton d/d. Chloride of ammonia, £37 to £45 per ton. Carr. pd.  
 Salt Cake.—£3 10s. per ton d/d. In bulk.  
 Soda Caustic, Solid.—Spot lots delivered, £15 12s. 6d. to £18 per ton, according to strength; 20s. less for contracts.  
 Soda Crystals.—£5 to £5 5s. per ton ex railway depots or ports.  
 Sodium Acetate 97/98%.—£24 per ton.  
 Sodium Bicarbonate.—£10 10s. per ton, carr. paid.  
 Sodium Bichromate.—4½d. per lb.  
 Sodium Bisulphite Powder 60/62%.—£17 to £18 per ton, according to quantity, f.o.b., 1-cwt. iron drums included.  
 Sodium Chlorate.—2½d. to 3½d. per lb.  
 Sodium Nitrate refined 96%.—£13 5s. to £13 10s. per ton, ex Liverpool. Nominal.  
 Sodium Nitrite 100% basis.—£27 per ton d/d.  
 Sodium Sulphide conc. solid. 60/65.—About £15 per ton d/d. Contract £14 15s. Carr. pd.  
 Sodium Sulphide Crystals.—£9 5s. per ton d/d. Contract £9 2s. 6d. Carr. pd.  
 Sodium Sulphide, Pea Crystals.—£15 per ton f.o.r. London, 1-cwt. kegs included.

### Coal Tar Products

Acid Carbollic Crystals.—5½d. per lb. Slightly better demand.  
 Crude 60's, 1s. 7d. to 1s. 9d. per gall. Market quiet.  
 Acid Cresylic 97/99.—1s. 11d. to 2s. 1d. per gall. Market weaker.  
 Pale, 95%, 1s. 7d. to 1s. 11d. per gall. Dark, 1s. 7d. to 1s. 9d. per gall. Market dull.  
 Anthracene Paste 40%.—4d. per unit per cwt.—Nominal price. No business.  
 Anthracene Oil, Strained.—6½d. to 7½d. per gall. Small demand.  
 Unstrained, 6d. to 6½d. per gall.  
 Benzol.—Crude 65's.—9d. to 11½d. per gall., ex works in tank wagons. Standard Motor, 1s. 4½d. to 1s. 6d. per gall., ex works in tank wagons. Pure, 1s. 9½d. to 1s. 11d. per gall., ex works in tank wagons. Supplies very scarce.  
 Toluol.—90%, 1s. 5½d. to 1s. 7d. per gall. More inquiry. Pure, 1s. 7d. to 1s. 9d. per gall. Steady demand.  
 Xylol Commercial.—2s. 3d. per gall. Pure, 3s. 3d. per gall.  
 Creosote.—Cresylic, 20/24%, 8½d. per gall. Better demand.  
 Middle Oil, Heavy, Standard specification, 5½d. to 6½d. per gall., according to quality and district. Market firmer. Steady demand.  
 Naphtha.—Crude, 8d. to 9d. per gall. Solvent 90/160, 1s. 5d. to 1s. 7d. per gall. Demand good. Solvent 90/190, 11d. to 1s. 1d. per gall. Rather more inquiry.  
 Naphthalene Crude.—Demand rather better. Cheaper in Yorkshire than in Lancashire. Drained Creosote Salts, £3 to £5 per ton. Steady, but quiet. Whizzed or hot pressed, £6 to £9 per ton. No business.  
 Naphthalene.—Crystals and Flaked, £12 to £15 per ton, according to districts.  
 Pitch.—Medium soft, 47s. 6d. to 55s. per ton, according to district. Not much business. Demand anticipated.  
 Pyridine.—90/160, 18s. to 18s. 6d. per gall. Fair inquiries. Heavy, 11s. to 12s. Rather flat.

### Intermediates and Dyes

In the following list of Intermediates delivered prices include packages except where otherwise stated.

Acetic Anhydride 95%.—1s. 7d. per lb.  
 Acid H.—3s. 10d. per lb. 100% basis d/d.  
 Acid Naphthionic.—2s. 2d. per lb. 100% basis d/d.  
 Acid Neville and Winther.—5s. 8d. per lb. 100% basis d/d.  
 Acid Salicylic, technical.—1s. 0½d. to 1s. 1d. per lb. Good demand.  
 Acid Sulphanilic.—9d. per lb. 100% basis d/d.  
 Aluminium Chloride, anhydrous.—10d. per lb. d/d.  
 Aniline Oil.—8d. per lb. naked at works.  
 Aniline Salts.—8d. per lb. naked at works.  
 Antimony Pentachloride.—1s. per lb. d/d.  
 Benzidine Base.—3s. 9d. per lb. 100% basis d/d.  
 Benzyl Chloride 95%.—1s. 1d. per lb.  
 p-Chlorophenol.—4s. 3d. per lb. d/d.  
 p-Chloraniline.—3s. per lb. 100% basis.  
 o-Cresol 29/31° C.—3½d. to 4d. per lb. Poor demand.  
 m-Cresol 98/100%.—2s. 1d. to 2s. 3d. per lb. Demand moderate.  
 p-Cresol 32/34° C.—2s. 1d. to 2s. 3d. per lb. Demand moderate.  
 Dichloraniline.—2s. 3d. per lb.  
 Dichloraniline S. Acid.—2s. 3d. per lb. 100% basis.  
 p-Dichlorobenzol.—£85 per ton.  
 Diethylaniline.—4s. 3d. per lb. d/d., packages extra, returnable.  
 Dimethylaniline.—2s. 2½d. per lb. d/d. Drums extra.  
 Dinitrobenzene.—9d. per lb. naked at works.  
 Dinitrochlorobenzol.—£84 10s. per ton d/d.  
 Dinitrotoluene.—48/50° C. 8d. to 9d. per lb. naked at works.  
 66/68° C. 1s. 2d. per lb. naked at works.  
 Diphenylaniline.—2s. 10d. per lb. d/d.  
 G. Salt.—2s. 2d. per lb. 100% basis d/d.  
 Monochlorobenzol.—£63 per ton.  
 a-Naphthol.—2s. 4d. per lb. d/d.  
 B-Naphthol.—1s. per lb. d/d.  
 a-Naphthylamine.—1s. 3½d. per lb. d/d.  
 B-Naphthylamine.—4s. per lb. d/d.  
 m-Nitraniline.—4s. 2½d. per lb. d/d.  
 p-Nitraniline.—2s. 2½d. per lb. d/d.  
 Nitrobenzene.—5½d. to 5½d. per lb. naked at works.  
 o-Nitrochlorobenzol.—2s. 3d. per lb. 100% basis d/d.  
 Nitronaphthalene.—10d. per lb. d/d.  
 p-Nitrophenol.—1s. 9d. per lb. 100% basis d/d.  
 p-Nitro-o-amido-phenol.—4s. 6d. per lb. 100% basis.  
 m-Phenylene Diamine.—4s. per lb. d/d.  
 p-Phenylene Diamine.—10s. per lb. 100% basis d/d.  
 R. Salt.—2s. 4d. per lb. 100% basis d/d.  
 Sodium Naphthionate.—2s. 2d. per lb. 100% basis d/d.  
 o-Toluidine.—10d. per lb.  
 p-Toluidine.—2s. 10d. per lb. naked at works.  
 m-Tolylene Diamine.—4s. per lb. d/d.

### Wood Distillation Products

Market quiet, American competition still fairly keen.

Acetate of Lime.—Brown £11 to £11 5s. per ton d/d and upward.  
 Quiet market. Grey, £15 to £15 10s. per ton. Firmer. Liquor, 9d. per gall. 32° Tw.  
 Charcoal.—£7 5s. to £9 per ton, according to grade and locality. Fair demand.  
 Iron Liquor.—1s. 7d. per gall. 32° Tw. 1s. 2d. per gall. 24° Tw.  
 Red Liquor.—10d. to 1s. per gall. 14/15° Tw.  
 Wood Creosote.—2s. 9d. per gall. Unrefined.  
 Wood Naphtha, Miscible.—4s. 9d. per gall. 60% O.P. Solvent, 5s. per gall. 40% O.P.  
 Wood Tar.—£3 5s. to £4 per ton. Demand slack and stocks being held.  
 Brown Sugar of Lead.—£44 per ton. Steady market.

### Rubber Chemicals

Antimony Sulphide.—Golden, 5½d. to 1s. 4d. per lb., according to quality. Crimson, 1s. 4d. to 1s. 6d. per lb., according to quality.  
 Arsenic Sulphide, Yellow.—1s. 11d. per lb.  
 Barytes.—£3 10s. to £6 15s. per ton, according to quality.  
 Cadmium Sulphide.—3s. 9d. to 4s. 3d. per lb., according to quantity.  
 Carbon Bisulphide.—£30 to £33 per ton, according to quantity.  
 Carbon Black.—6d. to 6½d. per lb., ex wharf.  
 Carbon Tetrachloride.—£62 10s. to £67 10s. per ton, according to quantity drums extra.  
 Chromium Oxide, Green.—1s. 3d. per lb.  
 Indiarubber Substitutes, White and Dark.—5d. to 9½d. per lb. Demand very brisk. Prices likely to remain steady owing to firmness of rapeseed oils.  
 Lamp Black.—£48 per ton, barrels free.  
 Lead Hyposulphite.—7½d. per lb.  
 Lithopone, 30%.—£22 10s. per ton.

Mineral Rubber "Rubpron."—£16 5s. per ton f.o.r. London.  
Sulphur.—£10 to £12 per ton, according to quality.  
Sulphur Chloride.—4d. per lb., carboys extra.  
Sulphur Precip. B.P.—£56 to £65 per ton.  
Thiocarbamide.—2s. 6d. per lb.  
Vermilion, Pale or Deep.—5s. per lb. Dearer.  
Zinc Sulphide.—7½d. to 1s. 8d. per lb., according to quality.

#### Pharmaceutical and Photographic Chemicals

Acid, Acetic 80% B.P.—£45 per ton ex wharf London in glass containers.  
Acid, Acetyl Salicylic.—2s. 11d. to 3s. 1d. per lb., according to quantity. Sales steady. Price firm.  
Acid, Benzoic B.P.—2s. 6d. per lb.  
Acid, Boric B.P.—Crystal £51 per ton, Powder £55 per ton. Carriage paid any station in Great Britain.  
Acid, Camphoric.—19s. to 21s. per lb.  
Acid, Citric.—1s. 4½d. to 1s. 5d. per lb., less 5% for ton lots. Increased demand.  
Acid, Gallic.—2s. 9d. per lb. for pure crystal, in cwt. lots. Easier.  
Acid, Pyrogallic, Crystals.—7s. per lb. for 1 cwt. lots. Resublimed quality 8s. per lb. Market firm.  
Acid, Salicylic.—1s. 5½d. to 1s. 7d. per lb., according to quantity.  
Acid, Tannic B.P.—2s. 10d. per lb. Quiet steady demand.  
Acid, Tartaric.—1s. 1d. per lb., less 5%. Very firm, raw material again dearer.  
Amidol.—9s. per lb., d/d.  
Acetanilide.—1s. 10d. to 2s. per lb. More inquiry.  
Amidopyrin.—14s. 6d. per lb. for spot stocks.  
Ammonium Benzoate.—3s. to 3s. 3d. per lb., according to quantity.  
Ammonium Carbonate B.P.—£37 per ton.  
Atropine Sulphate.—12s. 6d. per oz. for English make.  
Barbitone.—13s. 9d. per lb.  
Benzonaphthol.—5s. 3d. per lb. spot.  
Bismuth Salts.—Prices reduced by about 1s. 3d. to 2s. 3d. per lb. on account of the fall in the price of the metal.  
Bismuth Carbonate.—7s. 8d. to 9s. 8d. per lb.  
Bismuth Citrate.—8s. to 10s. per lb.  
Bismuth Salicylate.—7s. 5d. to 9s. 5d. per lb.  
Bismuth Subnitrate.—6s. 10d. to 8s. 10d. per lb. according to quantity. Market less firm, uncertain.  
Borax B.P.—Crystal £29, Powder £30 per ton. Carriage paid any station in Great Britain.  
Bromides.—Potassium, 1s. 10d. per lb., easier; sodium, 1s. 11d. per lb., easier; ammonium, 2s. 3d. to 2s. 4d. per lb. Firmer.  
Calcium Lactate.—1s. 7d. to 2s., according to quantity. Fair demand and steady market.  
Chloral Hydrate.—4s. per lb.  
Chloroform.—2s. 6d. per lb. for cwt. lots.  
Creosote Carbonate.—6s. 6d. per lb. Little demand.  
Formaldehyde.—£48 to £49 per ton, in barrels ex wharf London. Supplies exceed demand.  
Glycerophosphates.—Fair business passing. Calcium, soluble and citrate free, 7s. per lb.; iron, 8s. 9d. per lb.; magnesium, 9s. per lb.; potassium, 50%, 3s. 6d. per lb.; sodium, 50%, 2s. 6d. per lb.  
Guaiacol Carbonate.—9s. per lb. Reduced in price.  
Hexamine.—3s. per lb. For bold crystal. Powder slightly less.  
Homatropine Hydrochloride.—25s. to 30s. per oz.  
Hydrastine Hydrochloride.—English make offered at 120s per oz.  
Hydroquinone.—4s. 3d. per lb. in cwt. lots. Foreign make.  
Hypophosphites.—Calcium, 3s. 6d. per lb. for 28 lb. lots; potassium, 4s. 1d. per lb.; sodium, 4s. per lb.  
Iron Ammonium Citrate B.P.—1s. 11d. to 2s. 3d. per lb.  
Magnesium Carbonate.—Light Commercial, £36 per ton net. Light pure, £46 per ton.  
Magnesium Oxide.—Light Commercial, £75 per ton, less 2½%; Heavy Commercial, £25 per ton, less 2½%; Heavy Pure, 2s. to 2s. 3d. per lb., according to quantity. Steady market.  
Menthol.—A.B.R. recrystallised B.P., 50s. per lb., February delivery; Synthetic, 26s. to 35s. per lb. according to quality. English make. Increasing demand.

Mercurials.—Market very quiet. Red oxide, 5s. 2d. to 5s. 4d. per lb.; Corrosive sublimate, 3s. 5d. to 3s. 7d. per lb.; white precipitate, 4s. 6d. to 4s. 8d. per lb.; Calomel, 3s. 10d. to 4s. per lb.  
Methyl Salicylate.—1s. 9d. to 1s. 11d. per lb.  
Methyl Sulphonol.—22s. per lb. Slightly weaker.  
Metol.—11s. per lb. British make.  
Morphine and Salts.—Reduced by 1s. to 1s. 3d. per oz.  
Paraformaldehyde.—2s. 8d. for B.P. quality.  
Paraldehyde.—1s. 2d. to 1s. 6d. per lb., in free bottles and cases.  
Phenacetin.—5s. 3d. per lb. in cwt. lots.  
Phenazone.—7s. per lb.  
Phenolphthalein.—5s. 4d. per lb. for cwt. lots.  
Potassium Bitartrate 99/100% (Cream of Tartar).—86s. per cwt., less 2½% for ton lots. Raw material again dearer.  
Potassium Citrate.—1s. 10d. to 2s. 2d. per lb.  
Potassium Ferricyanide.—1s. 9d. per lb. Quiet.  
Potassium Iodide.—16s. 8d. to 17s. 5d. per lb., according to quantity. Steady market.

Potassium Metabisulphite.—7½d. per lb., 1-cwt. kegs included, f.o.r. London.  
Potassium Permanganate.—B.P. crystals, 7½d. per lb., carriage paid; commercial, 8d. to 8½d. per lb., carriage paid. Forward prices higher.  
Quinine Sulphate.—2s. 3d. to 2s. 4d. per oz., in 100 oz. tins. Steady market.  
Resorcin.—5s. per lb. In fair quantities. Supplies exceed demand.  
Saccharin.—63s. per lb. in 50-lb. lots.  
Salol.—3s. 6d. per lb., for cwt. lots. Slightly dearer.  
Silver Proteinate.—9s. per lb. for satisfactory product light in colour.  
Sodium Benzoate, B.P.—1s. 10d. to 2s. per lb. From natural benzoic acid. Supplies of good quality available.  
Sodium Citrate, B.P.C., 1923.—1s. 11d. to 2s. 2d. per lb., according to quantity.  
Sodium Hypophosphite, Photographic.—£13 to £15 per ton, according to quantity, d/d consignee's station in 1-cwt. kegs.  
Sodium Metabisulphite Crystals.—37s. 6d. to 60s. per cwt., net cash, according to quantity.  
Sodium Nitroprusside.—16s. per lb.  
Sodium Potassium Tartrate (Rochelle Salt).—75s. per cwt., for ton lots and upwards.  
Sodium Salicylate. Powder, 2s. 3d. to 2s. 5d. per lb. Crystal, 2s. 4d. to 2s. 6d. per lb. Flake, 2s. 6d. per lb. Strong demand, market firmer. Prices advancing.  
Sodium Sulphide, pure recrystallised.—10d. to 1s. 2d. per lb.  
Sodium Sulphite, anhydrous, £27 10s. per ton, minimum 5 ton lots, according to quantity; 1 cwt. kegs included.  
Sulphonol.—14s. 6d. per lb. Little demand.  
Thymol.—17s. per lb.

#### Perfumery Chemicals

Acetophenone.—11s. per lb.  
Aubepine.—12s. 6d. per lb.  
Amyl Acetate.—3s. per lb.  
Amyl Butyrate.—6s. 6d. per lb.  
Amyl Salicylate.—3s. 3d. per lb.  
Anethol (M.P. 21/22° C.).—4s. 6d. per lb.  
Benzyl Acetate from Chlorine-free Benzyl Alcohol.—2s. 9d. per lb.  
Benzyl Alcohol free from Chlorine.—2s. 9d. per lb.  
Benzaldehyde free from Chlorine.—2s. 9d. per lb.  
Benzyl Benzoate.—3s. 6d. per lb.  
Cinnamic Aldehyde Natural.—18s. 6d. per lb.  
Coumarin.—17s. per lb.  
Citronellol.—20s. per lb.  
Citral.—9s. per lb.  
Ethyl Cinnamate.—12s. 6d. per lb.  
Ethyl Phthalate.—3s. per lb.  
Eugenol.—10s. 6d. per lb.  
Geraniol (Palmarosa).—33s. 6d. per lb.  
Geraniol.—12s. 6d. to 20s. per lb.  
Heliotropine.—6s. 9d. per lb.  
Iso Eugenol.—16s. per lb.  
Linalol ex Bois de Rose.—26s. per lb.  
Linalyl Acetate.—26s. per lb.  
Methyl Anthranilate.—10s. per lb.  
Methyl Benzoate.—5s. per lb.  
Musk Ambrette.—50s. per lb.  
Musk Xylol.—14s. per lb.  
Nerolin.—4s. 6d. per lb.  
Phenyl Ethyl Acetate.—15s. 6d. per lb.  
Phenyl Ethyl Alcohol.—14s. 3d. per lb. Cheaper.  
Rhodinol.—50s. per lb.  
Safrol.—1s. 10d. per lb.  
Terpineol.—2s. 4d. per lb.  
Vanillin.—25s. to 25s. 6d. per lb.

#### Essential Oils

Almond Oil, Foreign S.P.A.—15s. 6d. per lb.  
Anise Oil.—2s. 10d. per lb.  
Bergamot Oil.—14s. 9d. per lb. Cheaper.  
Bourbon Geranium Oil.—30s. per lb.  
Camphor Oil.—65s. per cwt.  
Cananga Oil, Java.—11s. 3d. per lb.  
Cinnamon Oil, Leaf.—6½d. per oz.  
Cassia Oil, 80/85%.—9s. per lb.  
Citronella Oil.—Java, 85/90%, 6s. 3d. per lb. Cheaper. Ceylon, 3s. 2d. per lb. Cheaper.  
Clove Oil.—8s. per lb.  
Eucalyptus Oil, 70/75%.—2s. 1d. per lb.  
Lavender Oil.—French 38/40% Esters; 35s. per lb.  
Lemon Oil.—3s. 4d. per lb.  
Lemongrass Oil.—5s. 9d. per lb.  
Orange Oil, Sweet.—10s. 9d. per lb.  
Otto of Rose Oil.—Bulgarian, 42s. 6d. per oz. Anatolian, 28s. per oz.  
Palma Rosa Oil.—16s. 9d. per lb. Cheaper.  
Peppermint Oil.—Wayne County, 45s. per lb. Japanese, 22s. 6d. per lb.  
Pettigrain Oil.—9s. 9d. per lb.  
Sandal Wood Oil.—Mysore, 26s. 7d. per lb. Australian, 18s. 6d. per lb.



## Scottish Chemical Market

*The following notes on the Scottish Chemical Market are specially supplied to THE CHEMICAL AGE by Messrs. Charles Tennant and Co., Ltd., Glasgow, and may be accepted as representing the firm's independent and impartial opinions.*

Glasgow, January 15, 1925.

During the past week business in the Heavy Chemical Market has been moderately good, and although inquiry going around might be larger, things on the whole are not to be complained about. Prices in most instances remain steady.

### Industrial Chemicals

**ACID, ACETIC.**—Moderate inquiry and prices unchanged, as follows: Glacial, 98/100%, £57 to £68 per ton according to quality and packing. 80% pure quoted £43 to £45 per ton. 80% technical £42 to £44 per ton, packed in casks delivered c.i.f. U.K. port, duty free.

**ACID, BORACIC.**—Remains unchanged. Crystal or granulated, £45 per ton; powdered, £47 per ton, carriage paid U.K. stations, minimum ton lots.

**ACID, CARBOLIC, ICE CRYSTALS.**—Rather better inquiry and price advanced to about 5½d. per lb. delivered.

**ACID, CITRIC, B.P. CRYSTALS.**—Now quoted 1s. 4½d. per lb., less 5% ex store. Offered for shipment from the continent at 1s. 4d. per lb., less 5% ex wharf.

**ACID, FORMIC 85%.**—In moderate demand and price about £52 per ton ex store, spot delivery. Offered from the continent at about £51 per ton c.i.f. U.K. port.

**ACID, HYDROCHLORIC.**—In little demand. Price 6s. 6d. per carboy ex works.

**ACID, NITRIC 80%.**—£23 10s. per ton, ex station, full truck loads.

**ACID, OXALIC, 98/100%.**—Unchanged at about 3½d. per lb., ex store. Offered from the continent at 3½d. per lb., ex wharf.

**ACID, SULPHURIC.**—144°, £3 12s. 6d. per ton; 168°, £7 per ton, ex works, full truck loads. Dearsenicated quality, 20s. per ton more.

**ACID, TARTARIC, B.P. CRYSTALS.**—Now quoted 3½d. per lb., less 5% ex store. Offered for forward delivery at slightly less.

**ALUMINA, SULPHATE, 17/18% IRON FREE.**—Quoted £6 10s. per ton c.i.f. U.K. port, prompt shipment. Spot lots about £7 7s. 6d. per ton, ex store.

**ALUM.**—Lump potash alum unchanged at about £9 15s. per ton ex store, spot delivery. Offered from the continent at about £8 15s. per ton ex wharf. Ammonium chrome alum of British manufacture quoted £17 per ton f.o.b. U.K. port.

**AMMONIA, ANHYDROUS.**—Unchanged at about 1s. 6d. per lb. ex station. Containers extra and returnable, with possible slight reduction for large quantities.

**AMMONIA, CARBONATE.**—Lump, £37 per ton; powdered, £39 per ton; packed in 5 cwt. casks delivered U.K. port.

**AMMONIA, LIQUID 880°.**—In steady demand. Unchanged at 2½d. to 3d. per lb. delivered, according to quality, containers extra.

**AMMONIA, MURIATE.**—Grey galvanizer's crystals of English manufacture, unchanged at about £30 per ton in casks, £29 per ton in bags, carriage paid U.K. stations. Fine white crystals offered from the continent at about £23 10s. per ton, c.i.f. U.K. port.

**ARSENIC, WHITE POWDERED.**—Demands still poor. Spot lots offered at about £36 per ton ex store. Offered for prompt despatch from mines at slightly less, ex wharf.

**BARIUM, CARBONATE 98/100%.**—Offered from the continent at about £9 10s. per ton, c.i.f. U.K. port.

**BARIUM CHLORIDE 98/100%.**—White crystal powder offered from the continent at about £9 7s. 6d. per ton c.i.f. U.K. port. Large crystals about £11 per ton, c.i.f. U.K. port. Spot lots quoted £11 15s. per ton, ex store.

**BLEACHING POWDER.**—Spot lots quoted £10 10s. per ton ex station, contracts 20s. per ton less.

**BARYTES.**—English material unchanged at £5 5s. per ton ex works. Continental quoted £5 per ton, c.i.f. U.K. port.

**BORAX.**—Granulated, £24 10s. per ton; crystals, £25 per ton; powdered, £26 per ton, carriage paid U.K. stations, minimum ton lots.

**CALCIUM CHLORIDE.**—English material unchanged at £5 12s. 6d. per ton, ex station. Continental now quoted £4 10s. per ton, c.i.f. U.K. port.

**COPPERAS, GREEN.**—Unchanged at about £3 5s. per ton, ex works, packed in casks free.

**COPPER SULPHATE.**—British material for export quoted about £24 per ton f.o.b. U.K. port. Continental available on spot at about £23 10s. per ton ex store.

**FORMALDEHYDE, 40%.**—Cheaper offers from the continent. Quoted at about £43 to £44 per ton, c.i.f. U.K. port.

**GLAUBER SALTS.**—White crystals of English manufacture unchanged at £4 per ton, ex store or station. Fine white crystals offered from the continent at £3 5s. per ton, c.i.f. U.K. port.

**LEAD, RED.**—Imported material quoted £48 per ton ex store, but some parcels could probably be picked up for less.

**LEAD, WHITE.**—Unchanged at about £48 15s. per ton, ex store.

**LEAD, ACETATE.**—White crystals unchanged at about £48 per ton ex store, spot delivery; brown quoted £46 10s. per ton, ex store.

**MAGNESITE, CALCINED.**—Unchanged at about £7 17s. 6d. per ton, ex station, prompt delivery. Hard burnt quality quoted £4 15s. per ton, ex station. Finer quality of continental manufacture quoted £7 15s. per ton, c.i.f. U.K. port.

**MAGNESIUM CHLORIDE.**—Offered from the continent at £4 15s. per ton, c.i.f. U.K. port.

**POTASH CAUSTIC 88/92%.**—Unchanged at about £31 per ton ex wharf, prompt shipment from the continent.

**POTASSIUM BICHROMATE.**—Quoted 5d. per lb., delivered.

**POTASSIUM CARBONATE 96/98%.**—Continental prices advanced to £23 per ton, c.i.f. U.K. port. Spot material still available at £24 15s. per ton, ex store.

**POTASSIUM CHLORATE.**—Quoted 2½d. per lb., c.i.f. U.K. port, prompt shipment. Spot lots available at about 2½d. per lb., ex wharf.

**POTASSIUM NITRATE, SALTPETRE.**—Quoted £26 per ton c.i.f. U.K. port, prompt shipment from the continent. Spot lots on offer at £28 15s. per ton, ex store.

**POTASSIUM PERMANGANATE, B.P. CRYSTALS.**—Unchanged at about 8½d. per lb. ex store, spot delivery. Offered from the continent at about 8d. per lb. ex wharf.

**POTASSIUM PRUSSIAN, YELLOW.**—Spot lots now quoted 7½d. per lb. ex store. Offered from the continent at about 7½d. per lb. ex wharf.

**SODA CAUSTIC.**—76/77% £18 per ton; 70/72%, £16 2s. 6d. per ton; broken, 60%, £17 2s. 6d. per ton; powdered 98/99%, £21 7s. 6d. per ton, all carriage paid U.K. stations, spot delivery. Contracts 20s. per ton less.

**SODIUM ACETATE.**—In little demand and price unchanged at about £23 7s. 6d. per ton ex store. Offered from the continent at £22 10s. per ton c.i.f. U.K. port.

**SODIUM BICARBONATE.**—Refined recrystallised quality £10 10s. per ton ex quay or station; M.W. quality, 30s. per ton less.

**SODIUM BICHROMATE.**—Quoted 4d. per lb. delivered.

**SODIUM CARBONATE.**—Soda Crystals, £5 to £5 5s. per ton, ex quay or station. Powdered or pea quality £1 7s. 6d. per ton more; alkali 58%, £8 12s. 3d. per ton ex quay or station.

**SODIUM HYPOSULPHITE.**—English material unchanged at £10 per ton ex station, continental quoted £8 5s. per ton c.i.f. U.K. port. Spot lots available at about £9 10s. per ton ex store. Pea crystals of English manufacture quoted £13 15s. per ton ex station.

**SODIUM NITRATE.**—Ordinary quality quoted £13 17s. 6d. per ton ex store. 96/98%, refined quality 7s. 6d. per ton extra.

**SODIUM NITRITE 100%.**—Rather better inquiry. Price £27 per ton ex station, basis 100%.

**SODIUM PRUSSIAN, YELLOW.**—Good inquiry and price advanced to about 4½d. per lb. ex store. Offered for prompt shipment from the continent at slightly less.

**SODIUM SULPHATE, SALTCAKE.**—Price for home consumption £3 10s. per ton f.o.b. works. Good inquiry for export and higher prices obtainable.

**SODIUM SULPHIDE.**—English manufacturers quote—60/65% solid, £15 per ton; broken £1 per ton more; flake £2 per ton more; crystals 31/34% £9 5s. per ton, carriage paid U.K. stations minimum 4 ton lots, with slight reduction for contracts over a period. Solid 60/62% offered from the continent at about £12 per ton c.i.f. U.K. port. 30/32% crystals at about £8 10s. per ton c.i.f. U.K. port.

**SULPHUR.**—Flowers, £9 10s. per ton; roll, £8 10s. per ton; rock, £8 7s. 6d. per ton; ground, £8 5s. per ton. Ex store. Prices nominal.

**ZINC CHLORIDE.**—96/98% of continental manufacture quoted £23 per ton c.i.f. U.K. port. English material for export on offer at about £25 to £26 per ton, f.o.b. U.K. port.

**ZINC SULPHATE.**—Unchanged at £12 15s. per ton ex store, spot delivery.

**NOTE.**—The above prices are for bulk business and are not to be taken as applicable to small parcels.

### Coal Tar Intermediates and Wood Distillation Products

**AMIDO AZO TOLUOL.**—Some export inquiry, price 4s. 1½d. per lb. f.o.b. U.K. port.

**ANILINE OIL.**—6d. per lb. delivered in returnable drums.

**ANILINE SALT.**—8d. per lb. delivered casks free.

**BETA NAPHTHOL.**—Good home inquiry, price 11½d. per lb. delivered.

**DIPHENYLAMINE.**—Some export inquiry, price quoted 2s. 10d. per lb., f.o.b.

**META TOLUYLENE DIAMINE.**—Some export inquiry, price 4s. per lb., f.o.b.

**PARANITRANILINE.**—Small home inquiry, 2s. 2½d. per lb. delivered.

## The Manchester Chemical Market

[FROM OUR OWN CORRESPONDENT.]

Manchester, January 15, 1925.

BUSINESS in chemicals on this market during the past week has only been on moderate lines, and there are few signs as yet of any considerable improvement either in the home demand or on export account. There are, however, expectations among traders of better business as weeks go on, but this, of course, depends entirely upon extended operations in the principal chemical-consuming industries—cotton and wool textiles, the iron and steel industries, the paper trade and other branches. An important feature of the market is that quotations are steady pretty well all round.

### Heavy Chemicals

Not a great amount of trade has been done either in saltcake or glauber salts, and values are nominally unchanged from recent levels at about £3 10s. per ton in each case. Prussiate of soda is in fair demand and prices are very steady at 4½d. to 4¾d. per lb. Caustic soda is offering at the recently reduced rates, ranging from £15 12s. 6d. per ton for 60 per cent. material to £18 for 76 per cent., and a quietly steady volume of trade is being put through both on home and foreign account. Hyposulphite of soda continues quiet and prices have an easy tendency, although still at last week's level of £13 10s. to £13 15s. per ton for photographic crystals and £9 5s. to £9 10s. per ton for commercial. Soda crystals are steady and in moderate inquiry at £5 5s. per ton. Alkali is being called for in fair quantities and prices are maintained at £6 15s. per ton. Sulphide of sodium is about unchanged at round £14 per ton for 60-65 per cent. concentrated solid and £9 5s. to £9 10s. per ton for crystals. Bichromate of soda is steady and in moderate request at 4d. per lb. Acetate of soda meets with a quiet sale at about £21 10s. per ton. Phosphate of soda is still on offer at £13 per ton, but the demand for this material is restricted. Chlorate of soda is fully maintained at 2½d. per lb. Bicarbonate of soda is quiet but steady at £10 10s. per ton. Bleaching powder is quoted at £9 10s. per ton, but the demand is only on a moderate scale.

Caustic potash values are very firm, the current range of prices now being £31 to £32 per ton for 90 per cent. strength. Carbonate of potash is also a strong section at about £24 per ton. Permanganate of potash is fairly active at 6½d. to 7¾d. per lb. according to quality. Chlorate of potash meets with a quietly steady sale at 2½d. per lb. Bichromate of potash has sold rather slowly, with values unchanged at 5d. per lb. Prussiate of potash is very firm at 7½d. to 7¾d. per lb.

Arsenic still fails to arouse much buying interest and prices continue weak in consequence, the current quotation in Manchester being about £36 per ton for white powdered, Cornish makes. There is said to be a little more movement in sulphate of copper at £24 10s. to £25 per ton, f.o.b. Commercial Epsom salts are rather quiet at the moment, but values are steady at between £4 10s. and £4 15s. per ton; magnesium sulphate, B.P. quality, is offering at round £6 10s. per ton. Lead compounds are very firm. Nitrate is quoted at £42 10s. to £43 per ton, and the acetates at £47 to £48 for the white material and about £44 per ton for brown. Acetate of lime is in quietly steady demand at strong prices, grey being quoted at £15 10s. per ton and brown at £11 to £11 10s.

### Acids and Tar Products

Acid values are fully maintained, although buying has only been moderate. Tartaric acid is on offer at 11¾d. to 1s. per lb. and citric at about 1s. 4½d. Oxalic acid keeps quiet and rather easy although still quoted at 3¾d. per lb. Acetic acid, 80 per cent. commercial quality, is selling at round £42 per ton and glacial at £68.

Pitch has been inactive but prices remain round £2 10s. per ton, Manchester. Creosote oil is in moderate demand and values firm at 6½d. per gallon. Naphthalenes are attracting comparatively little attention at about £15 per ton for refined grades and from £5 per ton for crude material. Carbolic acid continues quiet and nominally unchanged at 5½d. to 5¾d. per lb. for crystals and 1s. 9d. per gallon for crude. Cresylic acid keeps fairly steady at 2s. to 2s. 1d. per gallon. Solvent naphtha is still a firm section at 1s. 6d. per gallon.

## Turpentine Manufacture in India

[FROM A CORRESPONDENT.]

A COMPANY has been formed in the United Provinces for the manufacture of turpentine and rosin by taking over the factory situated in Clutterbuckganj now belonging to the Government. The business acquired includes a concession of a first option on all the crude resin collected by the Forest Department, U.P., from the forests under its control, with an alternative right to take over the tapping and collection of resin from up to 25 lakhs of channels in those forests, together with the goodwill of the concern. The products of the factory have for some years successfully competed with imported turpentine and rosin, and are now so firmly established in the market that, in spite of a considerable increase in consumption, imports have shrunk from 222,560 gallons of turpentine in 1907-08 to 71,451 gallons in 1921-22, and from 1,04,160 maunds of rosin to 14,524 maunds in the same period.

Resin is the raw product collected by the tapping of pine trees in the forests from which turpentine rosin and rosin oil are manufactured. The Government started resin tapping in 1896, and have steadily developed the industry, and during the past five years an average of 17,00,000 channels have been tapped annually in the forests from which the company will obtain their supplies. The pine forests of Kumaun possess further large potentialities for crude resin not yet developed. The factory is situated near the O. and R. Railway and R. and K. Railway lines, and possesses sidings from both broad and narrow gauge lines, which run into the factory. The factory is well equipped with machinery and plant, capable of dealing with 1,60,000 maunds of crude resin which can produce 2,60,000 gallons of turpentine and 1,00,000 maunds of rosin. The equipment includes electric light and water supply plants.

### German Potash for American Phosphate

NEGOTIATIONS are in progress for an exchange of German potash and American phosphate. The Phosphatgesellschaft of Hamburg, whose members operate superphosphate plants, is understood to have made such a proposition to American interests. The German phosphate manufacturers previously had secured assurances that the Potash Syndicate would participate, says *Chemical and Metallurgical Engineering*.

This is regarded as additional evidence that Germany is continuing to look to the United States for its phosphate, rather than to Algeria and Tunis. The report that the Franco-German commercial treaty might provide preferences for the phosphate coming from the French protectorate has led to scrutiny of the figures covering German imports of phosphate. While there has been a great reduction in the amount of these imports, apparently an increased proportion of the German imports has come from the United States. In the season of 1913-14, Germany consumed 630,000 metric tons of  $P_2O_5$ . In the season of 1921-22 the figure fell to 312 tons; in 1922-23 it fell to 295,000 tons, and in 1923-24 to 167,000 tons. Of all imports in 1923, 86 per cent. came from the United States. In the first nine months of 1924, 90 per cent. of all imports of phosphate came from the United States. In 1913 the figure was only 45 per cent.

Officials of the German Potash Syndicate deny that there is any effort to secure preferential treatment for French phosphate on the German market. It is pointed out that if Germany accorded France this preference it would lay itself open to like demands from other countries on particular products.

### Department of Scientific and Industrial Research

In a note last week we referred to the new chemical research organisation at Teddington which will become the headquarters of the various schemes of industrial research which the Department, in conjunction with several trade associations, is already carrying out. This does not, of course, refer to the research associations which were established in accordance with the Department's scheme of industrial and scientific research.

Dr. A. W. Crossley is to be associated with the developments in his capacity as present chairman of the Fabrics Committee.



## Oil Shale Distillation

### An Invention with Great Possibilities

NOTWITHSTANDING numerous failures of premature commercial undertakings seeking to exploit oil shale deposits in various parts of the world during the last few years, keen interest is being kept up in the U.S.A.—particularly by the oil companies and the universities—in the matter of oil shale research. The Presidential Oil Commission has been very active of late in this direction, and in collaboration with the U.S.A. naval authorities the Commission has just recently concluded an investigation not only of the enormous oil shale deposits in Colorado and Utah, but also of a very promising process of oil shale distillation. Mr. Curtis D. Wilbur, Secretary of the Navy, recently paid a visit to Alhambra, near Los Angeles, California, to witness a large-scale laboratory test of the Trumble oil shale distillation process which is claimed to be highly successful. Mr. Trumble is well known as a clever inventor in the field of petroleum oil cracking and distillation, and has patented valuable processes which are largely used by the Shell Company and others. He has now turned his attention to the distillation of oil shale, which already forms the subject matter of a large number of patents more or less worthless. An interesting account of the Trumble semi-manufacturing or large-scale laboratory plant is given in the current issue of the *Colorado School of Mines Quarterly* by Dr. V. C. Alderson, President of the Colorado School of Mines. It must be borne in mind, of course, that the invention is still in the experimental stage, and has not yet, apparently, been tried on the large manufacturing scale. Although, therefore, Dr. Alderson goes so far as to say that the Trumble process may well open up a new era in the distillation of oil shale as well as of coal and other hydrocarbons, we have to remember the difficulties almost invariably experienced in stepping from small scale to large.

### Description of the New Process

The new process is continuous, and after the plant has once been started up more heat is generated than is needed to run the plant, and this excess heat can be used for other purposes. The plant consists essentially of a pre-heater, retort, dephlegmator, and cracking stills.

After the shale has been broken up it is delivered into the pre-heater placed above the retort, where it is heated to 400° C., the necessary heat being obtained by decarbonisation of spent shale. It then passes to a vertical retort, which, on the large manufacturing scale, would hold 15 tons, but which, in the actual experiment described, held a charge of 150 lb. Vapours from the stills enter the lower part of the retort and further raise the temperature of the shale, after which super-heated steam is passed in to complete the distillation. In the dephlegmator the products of distillation are separated into light and heavy oil, the former passing into an agitator, where, after redistillation, water-white gasoline is obtained, together with pyridene and other products. The heavy oil is returned to the cracking still.

The cracking stills in the full-size plant would be 18 ft. long and 3 ft. in diameter, but in the small experimental plant they were 3 ft. long and 12 in. in diameter. In each still are two tubes one within the other. Super-heated steam is injected into the inner tube and supplies the heat for cracking. As heat is lost the resulting steam is returned to the super-heater and the temperature is raised to 1,200° C. A rotating spiral device removes the accumulated carbon. The hot spent shale at 1,000° C. from the retorts and hot carbon from the cracking stills pass into the decarboniser, which is also the pre-heater for the raw shale. The super-heater is of special design and placed below the ground level. The boiler is placed above the super-heater and is heated by the waste gases from the super-heater. Steam and oil vapours from the retort pass to a steam turbine connected to a generator to produce electricity for general power uses.

In starting the plant the decarboniser and pre-heater would be filled with raw shale, and wood would be burnt in the bottom of the decarboniser. The burning of the raw shale produces gas which passes through a central compartment of the decarboniser and also through an ordinary gas scrubber to the super-heater, and, on burning, starts the super-heater and the cycle. After the cycle is once started the outer shell or chamber of the decarboniser receives hot spent shale and

hot carbon instead of the raw shale with which the start was made. There are one or two obscure points in Dr. Alderson's account, and it will be of interest to see how the full-size plant works.

## Company News

**INTERNATIONAL NICKEL Co.**—A quarterly dividend of 1½ per cent. has been declared on the preferred stock, payable on February 2.

**CANADIAN EXPLOSIVES Co.**—A dividend of 1¼ per cent. on the 7 per cent. cumulative preference shares is announced for the quarter ended December 31 last, payable on January 15.

**BROKEN HILL PROPRIETARY BLOCK 14.**—For the half-year ended September 30 last the net profit, after meeting depreciation, interest and insurance, amounted to £10,247, from which is deducted the loss of £2,007 brought forward, leaving a credit balance of £8,240.

**DOMINION GLASS Co.**—A net profit of \$753,369 was secured for the year ended November 30 last. After provision is made for sinking fund requirements, bond interest, and dividends, there is a surplus of \$103,869. In the previous year the profit was \$724,664, and surplus \$75,164.

**WESTMINSTER BANK LIMITED.**—The net profits for the past year, after providing for bad and doubtful debts and all expenses, amount to £2,013,501 18s. 7d. This sum, added to £568,479 15s. 8d. brought forward from 1923, makes available the sum of £2,581,981 14s. 3d. The dividends, 20 per cent. on the £20 shares, and 12½ per cent. on the £1 shares, absorb £1,287,886 9s. 6d. and £100,000 has been transferred to bank premises account, £300,000 to rebuilding account, £200,000 to contingent fund and £100,000 to staff provident fund, leaving a balance of £594,095 4s. 9d. to be carried forward.

**ELECTROLYTIC ZINC COMPANY OF AUSTRALASIA.**—The profits for the year ended June 30, after writing £20,000 off investigation, research and depreciation funds, amounted to £456,820, and £2,739 was received from property and dividends, while the net profit transferred to appropriation account totalled £341,349, and £78,262 was brought forward. Dividends Nos. 4 and 5 absorbed £169,131, and there were transferred to the debenture sinking fund £11,560, to the equalisation reserve £40,000, and to the special amortisation reserve £100,000, and £98,920 was carried forward. Since the close of the year a further dividend on all preference and ordinary shares absorbing £95,346 has been paid.

### Cobalt and Its Uses

A PAPER ON "Cobalt, its Production and Some of its Uses," was given before a joint meeting of the Institute of Metals and the Society of Chemical Industry on Tuesday, January 6, at the Birmingham Chamber of Commerce, by Mr. T. H. Gant, A.I.C. The speaker said that cobalt always occurred in association with other elements, mainly silver, nickel, copper, sulphur, and arsenic. The chief sources of supply were countries of the British Empire, mainly Canada and Australia. The Canadian deposits of silver cobalt ores occurred in Ontario. The cobalt ores usually contained 7-86 of pure metal and the Australian ore 26-8. The Birmingham manufacture was commenced by Charles Askin, who founded the works now owned by Henry Wiggin and Co., Ltd., in 1834, chiefly to supply nickel, for which there was a great demand. Great difficulties were met with in separating the nickel from the cobalt, which was eventually done with sodium hypochlorate.

The principal, and probably the oldest, use of cobalt oxides and compounds was in the ceramic industry, where they were still used as a body or glaze stain and as an under-glaze or on-glaze stain. Most of the high-class china depended for its colouring on the blue of cobalt. The various colours were made by mixing cobalt oxide with the oxides of iron, chromium, manganese, copper, and nickel. Cobalt was also used for paints and driers, enamels, and latterly in the manufacture of cobalt steels, and as an alloy with chromium. The speaker expressed the belief that if cobalt could only be cheapened so as to compete with other alloys it would totally displace tungsten steels.

## Commercial Intelligence

The following are taken from printed reports, but we cannot be responsible for any errors that may occur.

### Mortgages and Charges

[NOTE.—The Companies Consolidation Act of 1908 provides that every Mortgage or Charge, as described therein, shall be registered within 21 days after its creation, otherwise it shall be void against the liquidator and any creditor. The Act also provides that every Company shall, in making its Annual Summary, specify the total amount of debts due from the Company in respect of all Mortgages or Charges. The following Mortgages and Charges have been so registered. In each case the total debt, as specified in the last available Annual Summary, is also given—marked with an \*—followed by the date of the Summary, but such total may have been reduced.]

BRITISH CYANIDES CO., LTD., London, E.C. (M., 17/1/25.) Registered January 5, £35,000 debenture, to Bishopsgate Nominees, Ltd., 15, Bishopsgate, E.C.; charged on land at Oldbury; also general charge. \*Nil. August 4, 1923.

GRASSHOPPER, LTD., London, N., chemists. (M., 17/1/25.) Registered December 31, £3,000 debentures; general charge.

HOWARTH, WILD AND HARRISON, LTD., Leeds, dyers and finishers, etc. (M., 17/1/25.) Registered November 27, £2,500 mortgage, to Mrs. A. H. Clarkson, Eden Park, Lenzie; charged on property at Woodside, Horsforth; also general charge. \*— September 24, 1923.

### Satisfaction

NATIONAL DYES, LTD., London, E.C. (M.S., 17/1/25.) Satisfaction registered January 2, £20,000, registered March 12, 1920.

### Receivership

OLEINE, LTD. (R., 17/1/25.) L. D. Kidson, of 1, Booth Street, Manchester, was appointed receiver and manager by Order of Court dated December 15, 1924.

### Company Winding Up Voluntarily

MODERN MEDECINE, LTD. (C.W.U.V., 17/1/25.) De Westley Layton, of Messrs. Lowe, Bingham and Matthews, appointed liquidator, December 31.

### Partnerships Dissolved

BRIDGETT (W. B.) (Frank BOYCE and Ronald BRIDGETT), indigo and general merchants and dealers, 14, Birming Lane, London, by mutual consent, as from September 1, 1924. Debts received and paid by F. Boyce, who will continue the business.

CHADWICK (GEORGE) AND CO. (George CHADWICK, Arthur CHADWICK, George CHADWICK the Younger, and Edward WARD), dyers, 13, Oxford Street, Manchester, and Clayton Lane, Bradford, Manchester, by mutual consent, as from October 30, 1924, so far as regards G. Chadwick the Younger, who retires from the firm. Debts received and paid by G. Chadwick, A. Chadwick and E. Ward, who are continuing the business.

WALKDEN, MAKIN AND CO (George CHADWICK, Arthur CHADWICK, George CHADWICK the Younger, and George TAYLOR), bleachers, dyers and finishers, Clayton Dye Works, Clayton, Manchester, by mutual consent, as from October 30, 1924, so far as regards G. Chadwick the Younger, who retires from the firm. Debts received and paid by G. Chadwick, A. Chadwick and G. Taylor, who are continuing the business.

### New Companies Registered

RICHARDSON AND WILLIAMSON, LTD., 809, Harrow Road, London, N.W.10. Chemists, druggists, drysalts, oil and colourmen; importers and manufacturers of and dealers in pharmaceutical, medical, chemical, industrial and other preparations, etc. Nominal capital, £1,500 in £1 shares.

WORCESTERSHIRE FERTILISER CO., LTD., manufacturers and preparers of, contractors for and dealers in all kinds of natural, artificial, chemical and vegetable manures, fertilisers and weed destroyers, washers, sprayers of fruit and other trees, etc. Nominal capital, £5,000 in £1 shares. Solicitors: Harold Mayhew and Co., 47, Temple Row, Birmingham.

UNIVERSAL GLASS CO., LTD., 66, Victoria Street, London, S.W.1. Manufacturers, importers and exporters of, agents for and dealers in all kinds of glass, glass bottles, medical and scientific glassware, etc. Nominal capital, £3,000 in 1,250 6 per cent. "A" preference and 1,500 6 per cent. "B" preference shares of £1 each and 5,000 ordinary shares of 1s. each.

WALLZO CHEMICALS, LTD., 220, Sentinel House, Southampton Row, London, W.C. Chemists, druggists, drysalts, oil and colourmen, importers, manufacturers of and dealers in pharmaceutical, medicinal, chemical, industrial and other preparations, etc. Nominal capital, £75,000 in 70,000 ordinary shares of £1 and 100,000 deferred shares of 1s.

### Chemical Trade Inquiries

The following inquiries, abstracted from the "Board of Trade Journal," have been received at the Department of Overseas Trade (Development and Intelligence), 35, Old Queen Street, London, S.W.1. British firms may obtain the names and addresses of the inquirers by applying to the Department (quoting the reference number and country), except where otherwise stated.

LINSEED OIL.—A commission agent in Oslo desires to secure the representation of British oil mills producing linseed oil. (Reference No. 69.)

VARNISH FUMES.—A Sydney firm manufacturing disinfectants wishes to get into touch with British manufacturers of copal oil (varnish fumes), which they use in large quantities. Particulars of quantities available, prices, f.o.b., with the nearest port and possible date of shipment desired. As the applicants desire information at the earliest moment, they suggest that British firms should telegraph them. (Reference No. 41.)

COAL TAR PRODUCTS.—A firm of merchants in Gothenburg is desirous of being placed in touch with British manufacturers of coal tar products, particularly cresylic acid. (Reference No. 75.)

ZINC CAKE.—The Director-General, India Store Department, Branch No. 14, Belvedere Road, Lambeth, S.E., requires 4,000 cwt. of zinc cake, 99.8 per cent. purity. Tenders by January 23. Forms from above.

### Tariff Changes

UNION OF SOUTH AFRICA.—New regulations prohibit the introduction, sale, etc., in the Union of bonemeal or other bone fertilisers (except dissolved bone compounds which have been chemically treated), or fertilisers containing meatmeal, bloodmeal, or any other product derived from any animal carcass, unless there is produced from the seller on importation a sworn declaration that such fertilisers have been effectively sterilised by one of the processes prescribed in the present regulations, and that the sterilising plant has been duly inspected by a competent Government official of the country of origin and certified by him in writing as efficient.

UNITED STATES OF AMERICA.—A Proclamation increases the import duty on oxalic acid (*ex para.* 1 of the Tariff) from 4 to 6 cents per lb. under the provisions of section 315 of the Tariff Act. The increased duty is to be applied as from January 27. The investigation held by the Tariff Commission established the fact that Germany was the principal competing country.

### Colouring Foodstuffs

WRITING in the *Manchester Guardian* Mr. James Sexton states that a considerable section of the public imagines that aniline dyes are freely used for foodstuffs. "On the contrary," he says, "the very strictest supervision is exercised over this increasingly important department of our dyestuffs manufacture. At the works of the British Dyestuffs Corporation, where most of this country's food-colouring is made, a very strict routine has to be observed throughout the entire process. First, the general suitability of a dyestuff is decided upon as far as colour and fastness to food acids and the sun are concerned. Then the dye selected is submitted to a laboratory of expert analysts whose special duty it is to discover whether the colour is even remotely injurious to human health. If it be in the least hurtful it is abandoned, and fresh experiments, frequently at considerable cost, are undertaken to find a harmless substitute."

